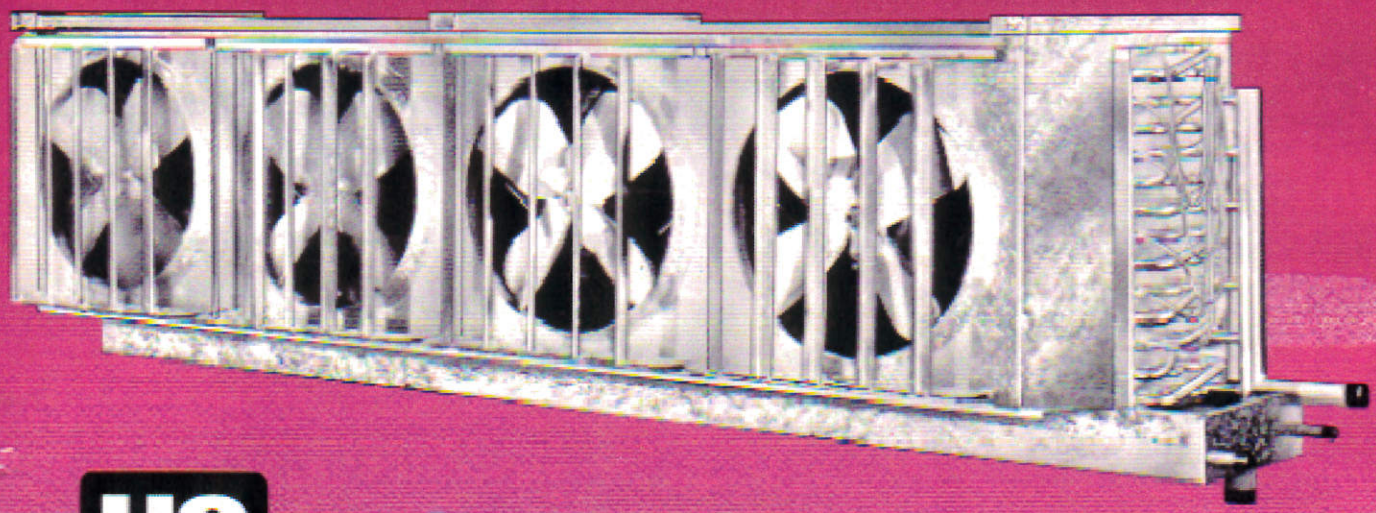
Bulletin UC-73

RIGIDBILT

Manufacturers, Designers & Engineers of

REFRIGERATION and HEAT TRANSFER EQUIPMENT



UC unit coolers

Blow Through or Draw Through

- Series: UC-18 1,990 CFM to 11,940 CFM
- Series: UC-20 3,300 CFM to 16,500 CFM
- Series: UC-24 4,900 CFM to 24,500 CFM
- Ammonia, Freons, Brines, Glycols
- Flooded, TXV, Recirculated
- Hot Gas Defrost, Water Defrost
- Copper, Steel, Stainless Steel and Aluminum Coils
- Cabinets: Hot Dip Galvanized and Stainless Steel

RIGIDBILT IS BETTER BUILT

UC unit coolers

- Product Holding Coolers
- Storage Coolers
- Work Room Coolers

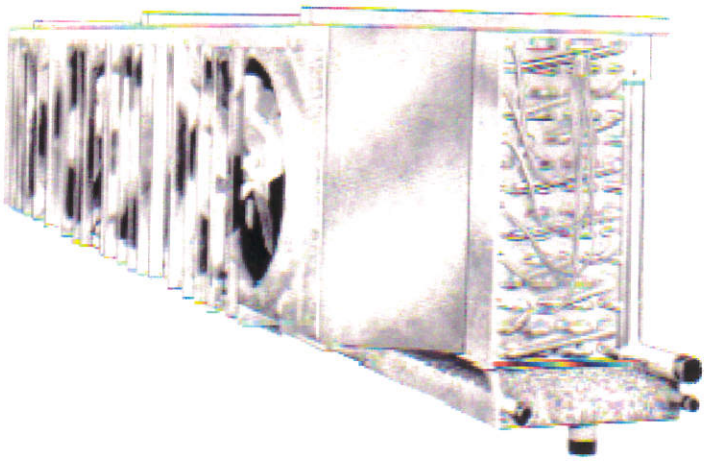
HALOCARBON COILS—Copper tubes and aluminum fins

AMMONIA COILS—Steel, hot dip galvanized ¾" O.D. x .045" wall—A214 tubes. ¾" O.D. x .083" wall tubes available

CABINETS—Steel, Hot Dip galvanized and stainless steel type 304

DRAIN PANS: Standard air defrost—hot dip galvanized inner pan with 1" thick insulation and galvanized steel outer pan.

HOT GAS PAN—Carbon steel coil and inner pan with galvicon finish, 1" insulation and galvanized steel outer pan.



TYPICAL SPECIFICATIONS

AMMONIA or BRINE COIL: Tubes are ¾" OD steel. Steel fins have extruded holes and collars. Tube sheets of 14 ga. steel with extruded holes for tubes. Headers of heavy wall steel tubing with MPT connections. All joints welded. Coil tested to 250 PSI minimum with air while fully submerged in water. Coil completely hot dip galvanized after fabrication. Circuited for direct expansion ammonia with multi-outlet distributor, for gravity feed flooded ammonia operation, for recirculated ammonia, or for brine circulation, as required.

FREON COIL: Tubes ¾" OD seamless copper, mechanically expanded into fin collars. Aluminum fins have extruded holes and collars. Tube sheets of 14 ga. steel with extruded holes for tubes. Headers of seamless copper tube with ODS connections. All joints brazed with an alloy of copper-silver-phosphorus, using no flux. Coil tested to 250 PSI minimum air pressure while fully submerged in water. Circuited for direct expansion with multi-outlet distributor.

DRAIN PAN: Heavy gauge hot rolled steel with welded seams. Pan to extend beyond return bends and headers. Pitched for quick draining. Hot dip galvanized after fabrication. Arranged for easy removal without disturbing remainder of unit.

Insulated drain pan, as above, with outer pan of galvanized steel and 1" insulation between inner and outer pan.

Hot gas defrost drain pan has coil attached to underside of inner pan. Coil and pan are protected with a heavy coat of heat conducting, corrosion-resisting zinc paint. Pans are insulated and double pan construction is used. Outer pan is galvanized steel, primed and painted.

Drain pan covers entire cabinet including coil and fan sections. Condensate from coil, bends, headers, and inside or outside of casing into the pan.

CASING: Top and bottom cover, side covers, fan rings, motor supports and louvers are heavy gauge steel, punched and formed, hot dip galvanized after fabrication.

HANGERS: Steel channels, hot dip galvanized after fabrication.

LOUVERS: Louvers (on draw-through models only) are hot dip galvanized after fabrication and attached to casing with nuts and bolts. On each fan, the louver assembly may be positioned in the field so blades are either vertical or horizontal.

Vertical louvers are available on blow-through units at a nominal extra charge.

MOTORS: Standard, open, drip-proof, NEMA frames, manufacturers standard catalog items, readily available. Single phase motors have built-in overload protection. Motors ¼, ⅓, ½ HP are 1160 RPM. Motor HP is nominal and wiring should be adequate for next larger motor size to allow for variations in voltage, friction, air density, etc. Motors on draw through units are furnished with rubber covered cords extended out to front of units.

FANS: Heavy duty type with steel or aluminum blades riveted to steel or cast iron hub. Set screw in hub to hold fan in position.

PLENUM: All units are provided with a deep plenum between coil and venturi to insure more uniform air distribution over coil and to minimize ice or frost accumulation on venturi and fans.

WATER DEFROST: Galvanized steel water distributing pan arranged so water will clean entire coil.

HOT GAS DEFROST: Arranged so that hot gas heats drain pan and enters coil through refrigerant distributor or through separate hot gas header.

NUTS AND BOLTS: All nuts and bolts used in assembly are cadmium plated.

SURGE DRUMS: For flooded operation, consult factory for surge drum sizes. For specific jobs, Rigidbilt can quote on one or more unit coolers operating on a common drum, with or without valves and controls.

VARYING FIN SPACINGS: Coils are available with different fin spacings on entering and leaving air side. For heavy frosting conditions, coils are available with 2 or 3 F.P.I. on entering side and 3, 4, or 6 F.P.I. on leaving air side. Coils are also available with uniform fin spacings of 2 or 6 F.P.I. For prices, please consult RIGIDBILT.

RIGIDBILT UNIT COOLERS

CAPACITIES (BTU/HR.)

BLOW THROUGH "BC" 18"—20"—24" SERIES

MODEL	CFM	Basic Rating 1° TD Flooded or Recirc.	Basic Rating 1° TD TXV	Approx Air Throw Ft.
4-FINS PER INCH				
BC4-118	1,990	1,400	1,250	35
BC4-218	3,980	2,800	2,500	35
BC4-318	5,970	4,200	3,750	35
BC4-418	7,960	5,600	5,000	35
BC4-518	9,950	7,000	6,250	35
BC4-618	11,940	8,400	7,500	35
BC4-120	3,300	2,310	2,060	40
BC4-220	6,600	4,620	4,120	40
BC4-320	9,900	6,930	6,180	40
BC4-420	13,200	9,240	8,240	40
BC4-520	16,500	11,550	10,300	40
BC4-124	4,900	3,450	3,070	45
BC4-224	9,800	6,900	6,140	45
BC4-324	14,700	10,350	9,210	45
BC4-424	19,600	13,800	12,280	45
BC4-524	24,500	17,250	15,350	45
3-FINS PER INCH				
BC3-118	1,990	1,160	1,050	35
BC3-218	3,980	2,360	2,100	35
BC3-318	5,970	3,540	3,150	35
BC3-418	7,960	4,720	4,200	35
BC3-518	9,950	5,900	5,250	35
BC3-618	11,940	7,080	6,300	35
BC3-120	3,300	1,950	1,735	40
BC3-220	6,600	3,900	3,470	40
BC3-320	9,900	5,850	5,205	40
BC3-420	13,200	7,800	6,940	40
BC3-520	16,500	9,750	8,675	40
BC3-124	4,900	2,910	2,590	45
BC3-224	9,800	5,820	5,180	45
BC3-324	14,700	8,730	7,770	45
BC3-424	19,600	11,640	10,360	45
BC3-524	24,500	14,550	12,950	45

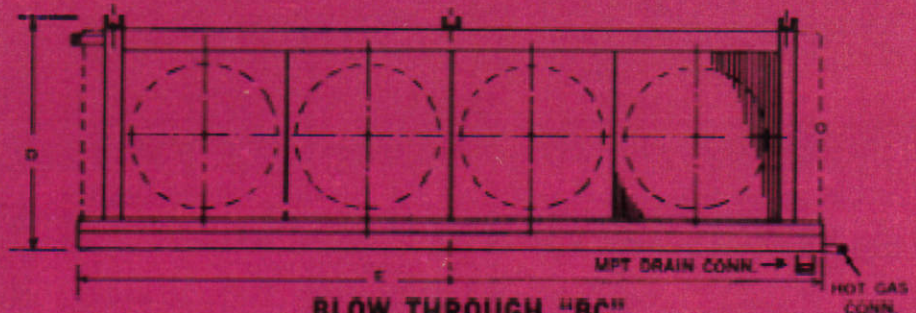
DRAW THROUGH "UC" 18"—20"—24" SERIES

MODEL	CFM	Basic Rating 1° TD Flooded or Recirc.	Basic Rating 1° TD TXV	Approx Air Throw Ft.
4-FINS PER INCH				
UC4-118	1,990	1,450	1,290	45
UC4-218	3,980	2,900	2,580	45
UC4-318	5,970	4,350	3,870	45
UC4-418	7,960	5,800	5,160	45
UC4-518	9,950	7,250	6,450	45
UC4-618	11,940	8,700	7,740	45
UC4-120	3,300	2,400	2,140	50
UC4-220	6,600	4,800	4,280	50
UC4-320	9,900	7,200	6,420	50
UC4-420	13,200	9,600	8,560	50
UC4-520	16,500	12,000	10,700	50
UC4-124	4,900	3,580	3,180	60
UC4-224	9,800	7,160	6,360	60
UC4-324	14,700	11,740	9,540	60
UC4-424	19,600	14,320	12,720	60
UC4-524	24,500	17,900	15,900	60
3-FINS PER INCH				
UC3-118	1,990	1,220	1,085	45
UC3-218	3,980	2,440	2,170	45
UC3-318	5,970	3,660	3,255	45
UC3-418	7,960	4,880	4,340	45
UC3-518	9,950	6,100	5,425	45
UC3-618	11,940	7,320	6,510	45
UC3-120	3,300	2,020	1,800	50
UC3-220	6,600	4,040	3,600	50
UC3-320	9,900	6,060	5,400	50
UC3-420	13,200	8,080	7,200	50
UC3-520	16,500	10,100	9,000	50
UC3-124	4,900	3,020	2,690	60
UC3-224	9,800	6,040	5,380	60
UC3-324	14,700	9,060	8,070	60
UC3-424	19,600	12,080	10,760	60
UC3-524	24,500	15,100	13,450	60

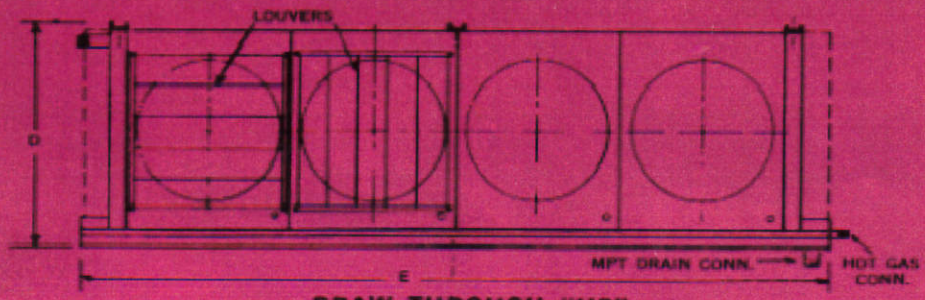
MODEL	MOTORS NO.	MOTORS H.P.	FANS	DRAIN MPT	*WATER DEFROST GPM	*WATER DEFROST MPT	Conn. To Hot Gas Coil In Pan-MPT	Int. Coil Vol. Cu. Ft.	Lineal Ft. of Tubing
BC4- and BC3- UC4- and UC3-									
-118	1	1/4	18"	1-1/2"	5	1"	1/2" MPT	.49	111
-218	2	1/4	18"	1-1/2"	11	1"	1/2" MPT	.74	220
-318	3	1/4	18"	1-1/2"	17	1"	1/2" MPT	1.00	330
-418	4	1/4	18"	2"	23	1-1/2"	1/2" MPT	1.26	440
-518	5	1/4	18"	2"	29	1-1/2"	3/4" MPT	1.55	550
-618	6	1/4	18"	2-1/2"	35	2"	3/4" MPT	1.80	660
-120	1	1/3	20"	1-1/2"	6	1"	1/2" MPT	.69	182
-220	2	1/3	20"	1-1/2"	13	1"	1/2" MPT	1.11	364
-320	3	1/3	20"	2"	20	1-1/2"	1/2" MPT	1.54	546
-420	4	1/3	20"	2"	27	1-1/2"	3/4" MPT	1.97	728
-520	5	1/3	20"	2-1/2"	34	2"	3/4" MPT	2.40	910
-124	1	1/2	24"	1-1/2"	9	1"	1/2" MPT	91	272
-224	2	1/2	24"	1-1/2"	18	1"	1/2" MPT	1.55	544
-324	3	1/2	24"	2"	27	1-1/2"	3/4" MPT	2.19	816
-424	4	1/2	24"	2-1/2"	36	2"	3/4" MPT	2.83	1088
-524	5	1/2	24"	2-1/2"	45	2"	3/4" MPT	3.50	1360

Models may be designated by adding letters as follows: "A" for ammonia; "B" for brine; "F" for freon; "HG" for hot gas defrost; "WD" for water defrost.

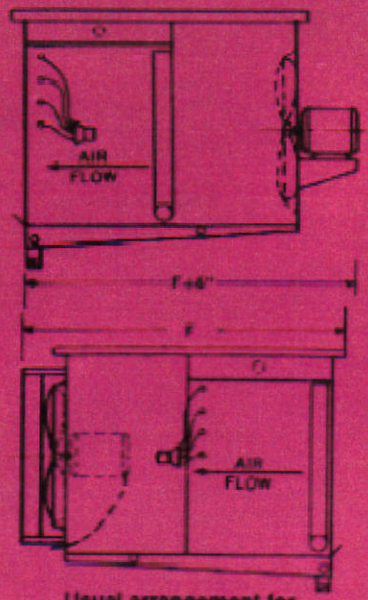
*Water should be 50° to 80° at 10 P.S.I.



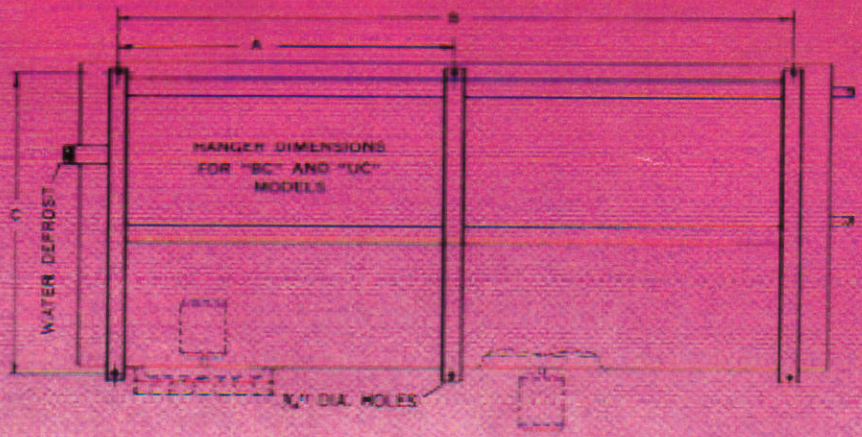
BLOW THROUGH "BC"

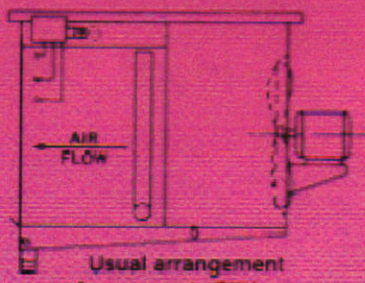


DRAW THROUGH "UC"

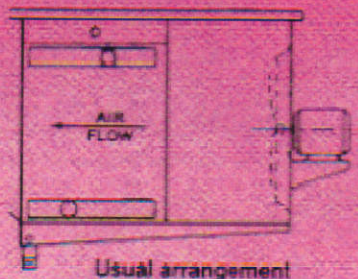


Usual arrangement for freons TXV.





Usual arrangement for ammonia TXV or liquid recirculation (cross feed).



Usual arrangement for flooded or bottom feed liquid recirc.

BLOW THROUGH "BC" DRAW THROUGH "UC"

	MODEL	DIMENSIONS A	B	C	D	E	F
BC4 AND BC3	-118	—	24	30	26	35	34
	-218	—	46	30	26	57	34
	-318	34	68	30	26	79	34
	-418	45	90	30	26	101	34
	-518	56	112	30	26	123	34
	-618	67	134	30	26	145	34
BC4 AND UC3	-120	—	28	31	34	39	35
	-220	—	54	31	34	65	35
	-320	40	80	31	34	91	35
	-420	53	106	31	34	117	35
	-520	66	132	31	34	143	35
	-124	—	36	32	38	47	36
	-224	35	70	32	38	81	36
	-324	52	104	32	38	115	36
	-424	69	138	32	38	149	36
	-524	86	172	32	38	183	36

Dimensions & specifications are for catalog purposes and subject to change without notice.

Certified drawings will be furnished on request.

RIGIDBILT INC

9240 W. Belmont Ave., Franklin Park, IL 60131
312-671-1512 1-800/468-8648
Telex 62927299